



A Guide
on
Hazardous Waste Management
for Florida's

Photo Shops

Hazardous Waste (RCRA) Compliance Assistance Program



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This document was published to help educate businesses on hazardous waste management issues affecting them. The suggested options may help businesses to operate in an environmentally appropriate manner. Some of the options may go beyond what is required to remain in compliance with regulations. Business owners are responsible for obtaining complete information about applicable regulations. Misrepresentations or omissions by the Florida Department of Environmental Protection or the Florida Center for Solid and Hazardous Waste Management do not relieve any person from any requirement of federal regulations or Florida law.

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WHY SHOULD I CARE ABOUT HAZARDOUS WASTES?

As a business owner, operator, or employee, you may be producing materials that can harm people and the environment.

This booklet offers helpful tips on how to:

- Comply with federal and state hazardous waste regulations.
- Avoid penalties by properly managing hazardous wastes.
- Save money on disposal costs by reducing hazardous wastes.

Health and Environment

Hazardous wastes spilled or dumped on the ground or disposed of in dumpsters may seep into the ground water and contaminate drinking water supplies.

Hazardous wastes may run off into the nearest body of water where they may poison or kill fish and other wildlife.

Hazardous wastes pose a health risk to you, your employees, and your community.

Cost Savings

State and county inspectors may visit your business to ensure that hazardous wastes are being managed properly. State penalties may range from \$100 to **\$50,000 Per Violation Per Day.**

Reducing hazardous wastes can reduce your production and disposal costs and reduce your risk of future liability.

Public Image

Your customers will appreciate your efforts to prevent pollution.

Your community will recognize your business as a good neighbor.

WHAT IS A HAZARDOUS WASTE?

A waste is hazardous if:

- It has any of the characteristics described below.
- It is listed as a hazardous waste in the Code of Federal Regulations, 40 CFR Part 261.

Characteristic Wastes

Ignitable

Ignitable Wastes are easily combustible or flammable. If they have a flashpoint of 140°F or less or an alcohol content of 24% or more, they are hazardous wastes. Examples include film cleaners, mounting glues and adhesives, some types of alcohol, waste paints, and solvents.



Corrosive

Corrosive wastes corrode metals or other materials or burn the skin. These liquids have a pH of 2 or lower or 12.5 or higher. Examples include concentrated bleaches and stabilizers and other old and expired chemicals.



Reactive

Reactive wastes are unstable and react rapidly or violently with water or other materials. Reactive wastes are not generally used in photo chemistry.



Toxic

Wastes are toxic if they contain heavy metals, such as chromium, lead or cadmium, or toxic chemicals. Examples include waste fixers, washless stabilizers, lowflow washes, rack and system cleaners (chromium based).



Listed Wastes

A waste is hazardous if it is listed in the Code of Federal Regulations, 40 CFR Part 261. For details on listed wastes and waste code numbers, contact the Florida Department of Environmental Protection. (See end of manual for DEP phone numbers) The Code of Federal Regulations is available at most libraries or may be purchased from the U.S. Government Bookstore (phone: 904-353-0569).

Acutely Hazardous Wastes

Small amounts of very dangerous wastes, such as arsenic and cyanide compounds, are regulated in the same way as large amounts of other wastes. A business that generates 2.2 pounds (1 kilogram) or more of these acutely toxic wastes per month is subject to full regulation under the hazardous waste rules.

Identifying Your Hazardous Wastes

It is very important to determine whether a waste is hazardous or non-hazardous. There are several ways to identify hazardous wastes.

- Obtain and read Material Safety Data Sheets(MSDS)
- Talk to product suppliers and manufacturers.
- Read product labels.
- Compare product and process information to hazardous waste characteristics and to wastes listed in federal regulations.
- If product or process information is not available or is inconclusive, have a commercial lab sample and test the waste using the TCLP test.
- A non-hazardous material or product may become a hazardous waste due to contaminants added during use. Lab testing may be necessary.



SOURCES OF HAZARDOUS WASTE

Processing Chemicals and Washes

Waste fixers, system cleaners, low flow washes, and washless stabilizers may be hazardous due to heavy metals or organic chemicals they may contain. For example, waste fixers and stabilizers may contain hazardous levels of silver. Prior to disposal, determine whether waste fluids are hazardous.

Solvents

Common solvents used for cleaning film, work surfaces, and equipment may contain hazardous substances. For example, film cleaners may contain trichloroethylene, a listed hazardous waste, or they may be hazardous due to flammability. Before disposal, determine whether solvent wastes are hazardous.

Photographic Film

Undeveloped photographic film contains high concentrations of silver. Before disposing of waste undeveloped film, take the proper steps to remove the silver from the film. Film ends and tabs can be soaked in waste fixer to remove the silver from the film before disposal.

Properly developed color negative film and prints do not contain residual levels of silver and can be properly disposed of with other solid wastes. Large quantities of negatives can be cost effectively recycled through film manufacturers' reclamation programs.

Black and white film and x-rays do contain residual levels of silver after developing. Before disposing of these negatives, contact a film recycling contractor for reclamation of the residual silver and the film.

Silver Recovery Units

Two popular methods of silver recovery produce wastes and effluents that are hazardous. Wastes sent to a contractor for reclamation or recycling are exempt from hazardous waste regulations. It is important to properly maintain silver recovery units.

Electrolytic recovery units cause silver to collect on electrolytic cathodes. The silver can be recycled and the desilvered fixer can generally be discharged to a sewer or reused. Notify your local sewer authority. Care must be taken to prevent the formation of sulfides, and silver concentrations in the effluent may be high.

Metallic replacement or chemical replacement cartridges form a silver sludge that may be reclaimed. Silver concentration in the effluent is high unless two units are in series.

Batteries

Many photo shops recycle batteries for their customers. Rechargeable nickel-cadmium batteries, lithium cells, mercury-oxide batteries, and other alkaline button cell batteries can be recycled. Most manufacturers and suppliers have take-back programs for batteries. If batteries are not recycled, determine whether they are hazardous prior to disposal.

Mercury-Containing Lamps and Devices

Spent fluorescent tubes, quartz-mercury studio lights, and some flash bulbs may be hazardous due to their mercury content. Recycling contractors can recycle many bulbs and devices, but if the items are broken, they may need to go to a hazardous waste contractor. Mercury-containing items cannot go to landfills.

Aerosol Cans

Empty aerosol cans which contained hazardous paints, dyes, or solvents may be thrown in the trash only if all the contents have been removed as completely as possible.

Wastewater

Waste processing chemicals and washes or wastewaters from metal recovery units should never be discharged to the ground or to a septic tank system. Wastewater should be discharged only to a sanitary sewer system with permission from your local sewer authority.

Substances commonly used in photo processing and subject to wastewater regulations include:

- Ammonia
- Formaldehyde
- Iron
- Heavy Metals, especially cadmium, chromium, and zinc
- Silver
- Sulfites/sulfates

Fixers, washless stabilizers, and other silver-rich wastewater should undergo silver recovery before being discharged to a sanitary sewer system. It may be necessary to contract with a licensed photographic waste disposal company to properly dispose of your silver-rich solutions.

Check with your local sewer authority to determine the allowable limit for silver in your discharge. Some Florida cities have very low limits. Know the limits of your area.

Rags and Paper Towels

Rags and paper towels are hazardous wastes when they are contaminated with solvents that contain hazardous substances. They can be disposed of as hazardous waste, or cleaned by a towel service that discharges its water to a sanitary sewer system.

Typical Hazardous Wastes

Heavy Metals in Processing Chemicals

Chromium
Lead
Mercury
Selenium
Silver

Process Solution Wastes

Reversal bleaches
Bleaches
Fixes
Low-flow washes
Washless stabilizers

Recovered Silver

Flake Silver
Silver Cartridges
In situ ion-exchanged resins
Silver precipitates

Solvents

Acetone
Ethyl alcohol
Isopropyl alcohol
Methyl alcohol
Methyl ethyl ketone
Methylene chloride
Naptha
Petroleum distillates
Toulene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethane
Xylene

Caustics and Acids

Acetic acid
Ammonium hydroxide
Chromic acid
Hydrochloric acid
Nitric acid
Oxalic acid
Phosphoric acid
Sodium hydroxide
Sulfuric acid

For more information on hazardous wastes, contact DEP (See the end of this booklet for DEP phone numbers)

How Should I Manage Hazardous Wastes?

First, determine how much hazardous waste you generate each month. The rules you must follow depend on how much you generate, how much you store, and how long you store it.

- **Less than 220 pounds** (100 kilograms or about half a drum): you are a "Conditionally Exempt Small Quantity Generator."
- **220-2,200 pounds** (100-1,000 kilograms, or about half a drum to 5 drums): You are a "Small Quantity Generator."
- **More than 2,200 pounds** (1,000 kilograms or more than about 5 drums): you are a "Large Quantity Generator."

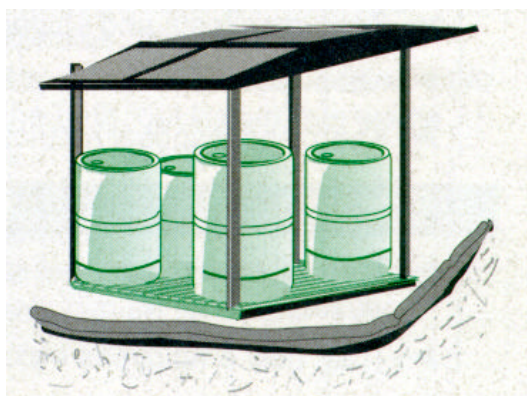
The following practices may be required for your business. Even if they are not required, they are good waste management practices. Additional information is available from DEP.

Containers

- Maintain containers in good condition. Prevent leaks, ruptures, and accumulation of rainwater on tops of drums.
- If a container leaks, transfer waste to a new container.
- Keep containers closed. Use self-closing funnels.
- Wastes must be compatible with the container. For example, use HDPE plastic containers for corrosive wastes.
- Never place incompatible wastes, such as wastes that react with each other (acids and bases), in the same container.

Storage

- Maintain adequate aisle space between container rows to allow inspection for leaks and damage.
- Store ignitable and reactive wastes at least 50 feet from property boundaries.
- Store containers of incompatible wastes in separate areas.
- Be aware of allowable time limits for storage.



Labels

- Label every container with the type of waste and whether it is hazardous or non-hazardous.
- Include federal waste code numbers.
- Include the accumulation start date (the date when waste was first placed in the drum).
- Include your businesses name and address.
- Use the following words on labels for hazardous wastes:

HAZARDOUS WASTE FEDERAL LAW PROHIBITS IMPROPER DISPOSAL

If found, please contact the nearest police or public safety authority or the U.S.
EPA

(Your business's name and address and manifest document number)

Transport and Disposal

- Make sure your transporter and disposal facility have EPA identification numbers.
- Use manifests for all hazardous wastes shipped offsite.

Inspection and Record Keeping

- Inspect all containers at least once a week and keep a written log of container inspections.
- Keep training and inspection records for 3 years.
- Keep manifests and shipping receipts for 3 years.
- Keep records of lab tests for 3 years.
- Keep land disposal restriction forms for 3 years.

Training

- Train all employees to identify, reduce, and properly handle wastes.
- Train new employees before they handle hazardous wastes.

HOW CAN I REDUCE HAZARDOUS WASTES?

Reducing hazardous wastes in your photo shop makes good business sense. Benefits include:

- Saving money on waste management costs.
- Reducing concerns about penalties and liability.
- Creating a safer, healthier workplace
- Promoting positive public relations with clients, customers, and the local community.

How do I Begin?

- Make a commitment to reducing waste in every area of your business.
- Evaluate your shop's wastes and identify areas where changes can be made.
- Encourage the participation of all employees through education, training, and incentives.

Processing

- Use silver recovery units or similar devices to reduce the volume and/or toxicity of waste processing chemicals and washes
- Recycle reclaimed or recovered silver.
- Collect waste film for recycling to a waste film recycler.
- Replace hazardous chemicals with less hazardous or non-hazardous substitutes where possible.
- Return out-of-date or unused chemical products to the manufacturer.
- Install squeegees or air curtains between processing tanks to reduce carryover and help maintain low replenishment rates.
- Follow manufacturer recommendations for replenishment rates.
- Use only low replenishment rate chemistry.
- Mix only what is needed
- Be aware of "free samples" that may end up needing special and costly handling for disposal.

Solvents

- Reduce or eliminate solvent use by determining whether cleaning is really necessary.
- Use a multi-purpose solvent to reduce the types of hazardous waste that need to be managed.
- Find less hazardous substitutes for solvents, such as citrus-based, water-based, or detergent based cleaners.
- Replace solvent only when necessary. Use dedicated containers and equipment to minimize cross-contamination.

Training

- Train employees to use photographic chemicals and solvent efficiently, using minimal amounts to get the job done.
- Make pollution prevention everyone's responsibility.



Shop Practices

- Minimize inventory and use a "first-in, first out" system to prevent the need for disposal of old, unused materials.
- Prevent leaks and spills. Keep floors clean.

WASTE REDUCTION CHECKLIST FOR SILVER RECOVERY

Electrolytic Recovery

- ☐ Check the current on electrolytic units frequently (at least daily) to ensure it is within the range specified by the manufacturer.
- ☐ Check the units to ensure that agitation is adequate (the cathode or anode is rotating, the solution pumps are working).
- ☐ Use a filter to remove dirt and other particles from fixer solution before it enters the electrolytic unit.
- ☐ Use silver test strips daily on discharge water to make sure the units are operating efficiently.

Metallic Replacement or Chemical Replacement

- ☐ Use silver test strips daily on discharge water to make sure the units are operating efficiently
- ☐ Change the canister immediately whenever the test strip shows silver in the discharge.
- ☐ Inspect the canister system often for plugging, channeling, and leaks from the hose connection
- ☐ Make sure the canister has a constant flow of solution running through it, rather than intermittent dripping during operation.

SILVER AND WASTE FILM RECYCLERS IN FLORIDA

Solely as a service to the public and Florida businesses, the Florida Department of Environmental Protection maintains a list of companies identified as providing reclamation, recovery, and recycling services. The information is voluntarily supplied by companies. A company's absence from the list does not imply prejudice or impropriety. The DEP does not endorse specific equipment or companies.

The DEP, by providing this list does not imply that the companies are in compliance with applicable laws and regulations. Users of this list are responsible for assuring that products, equipment, or services comply with the requirements of local, state, and federal law. The DEP cautions users to personally evaluate the services and compliance status of any company they use. This list is subject to change without notice. The DEP welcomes information from companies who wish to have their products or services listed.

A more complete list of silver and waste film recyclers, including companies in other regions of the United States can be obtained by calling DEP at (850) 488-0300.

Action Metals & Refining

East-West Industrial Park Blvd. #3
West Highway 50
Clermont, FL 32711
Phone: (407) 877-2004

Intervent Recycling

4045 U.S. Highway 301 North
P.O. Box 2177
Dade City, FL 33526-2177
Phone: (800)_ 621-6102

Chemical Pollution Control

3428 SW 15th Street
Deerfield Beach, FL 33442
Phone: (954) 480-9999

Photographic Waste Control

1943 High Street
Longwood, FL 32750
Phone: (407) 3328-9651

WHO NEEDS TO KNOW IF MY BUSINESS GENERATES HAZARDOUS WASTES?

Notify DEP

- If your business is a small or large quantity generator, notify DEP to obtain an EPA identification number. Local environmental agencies should also be notified.



Notify Local Authorities

- Police and fire departments and local hospitals who would respond to an emergency need to know that there are hazardous wastes on your property.



Designate an Emergency Coordinator

- This person must know what to do in case of a fire, spill, or other emergency and must be on the premises or on call 24 hours a day.



Develop a Contingency Plan

Guidance on contingency plans is available from DEP. Large quantity generators must have a written plan that includes:

- Emergency response arrangements with police, fire, hospitals, and emergency response contractors.
- Emergency coordinators' addresses and phone numbers.
- On-site emergency equipment descriptions and locations.
- Evacuation plan and routes, including a site diagram.
- Spill reporting procedures.



Post Emergency Information

Post the following information near every telephone:

Fire Department Phone Number
Emergency coordinator's name and phone number
Locations of fire alarms and extinguishers
Locations of spill control materials

CHECKLIST



This checklist will help you to prevent the most common hazardous waste violations.

For more detailed information on hazardous waste management requirements, contact DEP.

- ☐ Identify types and quantities of hazardous wastes.
- ☐ Notify Florida DEP and obtain an EPA identification number from DEP
- ☐ Use proper containers to collect and store wastes.
- ☐ Label all containers as hazardous or non-hazardous wastes.
- ☐ Include accumulation start dates on labels.
- ☐ Keep containers of hazardous waste closed.
- ☐ Maintain aisle space between containers for inspection.
- ☐ Inspect containers weekly for rust, leaks, or damage and keep inspection records for at least 3 years.
- ☐ Never discharge hazardous wastes to a septic tank unless you have a DEP permit.
- ☐ Train employees to properly handle hazardous waste.
- ☐ Designate an emergency coordinator.
- ☐ Notify police, hospitals, and fire department.
- ☐ Post emergency information near each phone.
- ☐ Develop a contingency plan for emergencies.
- ☐ Use manifests for all waste transported for disposal.
- ☐ Keep all records for at least 3 years.

WHERE CAN I GET MORE INFORMATION?

Additional information on hazardous waste reduction and regulations is available from many sources.

Florida Department of Environmental Protection

District offices and the Tallahassee office offer technical assistance, fact sheets, and other publications on hazardous waste regulations.

- **Hazardous Waste Compliance Assistance Program**

Phone: (850) 488-0300

Fax: (850) 921-8018

Available publications include: Summary of Hazardous Waste Regulations
Requirements for Conditionally Exempt Small Quantity Generators
Requirements for Small Quantity Generators
Handbook for Small Quantity Generators of Hazardous Waste

Florida Small Business Assistance Program

The Small Business Assistance Program helps businesses with environmental concerns and problems related to compliance with air regulations. Assistance is confidential and staff experts have business experience.

- Phone: (800) 722-7457

U.S. Environmental Protection Agency

The EPA has published a series of industry-specific guidelines and handbooks on preventing pollution and complying with hazardous waste regulations.

- RCRA Hotline (800) 424-9346

Your Trade Associations

Many trade associations have published guides to help you find solutions to your hazardous waste management problems, including Photo Marketing Association International: Phone (517) 788-8100; Fax (517) 788-8371.

OFFICES OF THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest District

160 Government Center
Pensacola, FL 32501-5794
850/444-8300 (SC 695-8300)

Northeast District

7825 Baymeadows Way
Suite B200
Jacksonville, FL 32256-7590
904/448-4300 (SC 880-4300)



N.W. Dist. Branch Office

2353 Jenks Ave.
Panama City, FL 32405
850/872-4375 (SC 777-4375)

N.W. Dist. Branch Office

2815 Remington Green Cir
Suite A
Tallahassee, FL 32308-1513
850/488-3704 (SC 278-3704)

N.E. Dist. Branch Office

101 N.W. 75th St.
Suite 3
Gainesville, FL 32607-1609
352/333-2850 (SC 627-2850)

Central District

3319 Maguire Blvd.
Suite 232
Orlando, FL 32803-3767
407/894-7555
(SC 325-2290)

Central Dist. Branch Office

13 East Melbourne Ave.
Melbourne, FL 32901
407/984-4800
(SC 350-4800)

Southwest District

3804 Coconut Palm Dr.
Tampa, FL 33619-8318
813/744-6100 (SC 512-1042)

S.W. Dist. Satellite Office

170 Century Blvd.
Bartow, FL 33830-7700
941/534-1448 (SC 572-6200)

S.W. Dist. Satellite Office

6700 Clark Rd.
Sarasota, FL 34241
941/361-6178

South District

2295 Victoria Ave
Suite 364
P.O. Box 2549
Ft. Myers, FL 33091
941/332-6975 (SC 765-5815)

South Dist. Branch Office

7451 Golf Course Blvd.
Punta Gorda, FL 33982
941/575-5814 (SC 765-5815)

South Dist. Branch Office

2796 Overseas Highway
Suite 221
Marathon, FL 33050
305/289-2310 (SC 464-2310)

Southeast District

400 N. Congress Ave.
P.O. Box 15425
West Palm Beach, FL 33416
561/681-6600
(SC 226-6600)

S.E. Dist. Branch Office

1801 S.E. Hillmoor Dr.
Suite C-204
Port St. Lucie, FL 34952
561/871-7662
(SC 222-7662)

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